



Scale: 5" / 100'
Measured Depth Log

Well Name Moses State LD11-78HN

Location SWSW SEC 2 T9N R58W

State COLORADO

County WELD

Country USA

Rig Number H&P 273

API Number 05-123-39828

Field WILDCAT

Region DJ BASIN

Drilling Completed 1/22/2015

Spud Date 1/16/2015

Surface Coordinates 465' FSL; 1154' FWL

Bottom Hole Coordinates 330' FFSSL; 675' FFWLL

Ground Elevation 4748'

K.B. Elevation 4772'

Logged Interval 5016' To 10870'

Total Depth 10870'

Formation NIOBRARA

Type of Drilling Fluid LSND

Operator

Company NOBLE ENERGY INC.

Address 1625 Broadway Suite 2200
Denver, CO 80202

Geologist

Name RENEE CLACKLER

Company NOBLE ENERGY INC.

Address 1625 Broadway Suite 2200
Denver, CO 80202

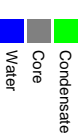
Other

Wellsite Geologist #1 Laura Kellogg








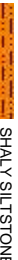




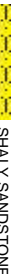













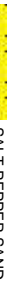






Wellsite Geologist #2 Tim Bright

Wellsite Geological Services Provided By Columbine Logging






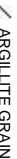
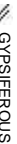


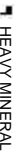




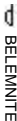
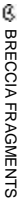








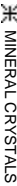







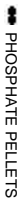

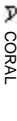
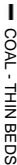


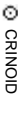

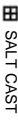





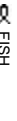


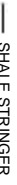
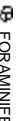
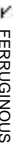



Zone Color Coding



Rock Types

 CHALK	 CEMENT	 IGNEOUS	 SHALE GRAY
 MARLSTONE	 CHERT	 SIDERITE or LIMONITE	 SHALY SILTSTONE
 SANDSTONE	 CLAY CHOKE SANC	 LIMESTONE	 SILTSTONE
 SHALY SANDSTONE	 CLAYSTONE	 METAMORPHIC	 TILL
 SILTY SHALE	 COAL	 NO SAMPLE	 TUFF
 UNKNOWN	 CONGLOMERATE	 SALT	 WELDED TUFF
 ANHYDRITE	 DOLOMITE	 SALT-PEPPER SAND	
 BENTONITE	 GRANITE	 SHALE	
 BRECCIA	 GYPSUM	 SHALE COLORED	

Accessories

 F FOSSIL	 ARGILLACEOUS	 GLAUCONITE	 TUFFACEOUS
 GASTROPOD	 ARGILLITE GRAIN	 GYPSIFEROUS	
 OOLITE	 B BENTONITE	 HEAVY MINERAL	
 AMPHIPORA	 BITUMENOUS SUBSTANCE	 INOCERAMUS	
 BELEMNITE	 BRECCIA FRAGMENTS	 KAOLIN	 ANHYDRITE STRINGER
 BIOCLASTIC	 CALCAREOUS	 MARLSTONE	 BENTONITE STRINGER
 BRACHIOPOD	 CARBONACEOUS FLAKES	 MINERAL CRYSTALS	 COAL STRINGER
 BRYOZOA	 CHTDK	 NODULES	 DOLOMITE STRINGER
 CEPHALOPOD	 CHITL	 PHOSPHATE PELLETS	 GYPSUM STRINGER
 CORAL	 COAL - THIN BEDS	 PYRITE	 LIMESTONE STRINGER
 CRINOID	 DOLOMITIC	 SALT CAST	 MARLSTONE (CALC) STRG
 ECHINOID	 FELDSPAR	 SANDY	 MARLSTONE (DOL) STRG
 FISH	 FERRUGINOUS PELLET	 SILICEOUS	 SANDSTONE STRINGER
 FORAMINIFERA	 FERRUGINOUS	 SILTY	 SHALE STRINGER
	 ANHYDRITIC		 SILTSTONE STRINGER












Minerals

Stringer

Engineering

Oil Show


Porosity

 MOLDIC	 CONNECTION (LEFT)
 ORGANIC	 CONNECTION (RIGHT)
 PINPOINT	 CONNECTION GAS
 VUGGY	 CORE - LOST
	 INTERCRYSTALLINE
	 CORE - RECOVERED
	 INTERROOTIC
	 DST INTERVAL

Other Symbols

 FAULT  WIRELINE TESTED - LEFT **E** EARTHY

 FORMATION TOP  WIRELINE TESTED - RT **FX** FINELYXLN

 GAS SHOW

GS GRAINSTONE


Rounding

 MINDEPTH MN DEPTH

L LITHOGRAPHIC

 NORMAL FAULT **A** ANGULAR

MX MICROXLN

 OIL SHOW

R ROUNDED

MS MUDSTONE

 OVERTURNED STRATA

B SUBANG

PS PACKSTONE

 REVERSE FAULT


F SUBRND

WS WACKESTONE

 SIDEWALL CORE (LEFT)

Textures


Sorting

 SIDEWALL CORE (RIGHT)

 SLIDE

BS BOUNDSTONE

M MODERATE

 SURVEY

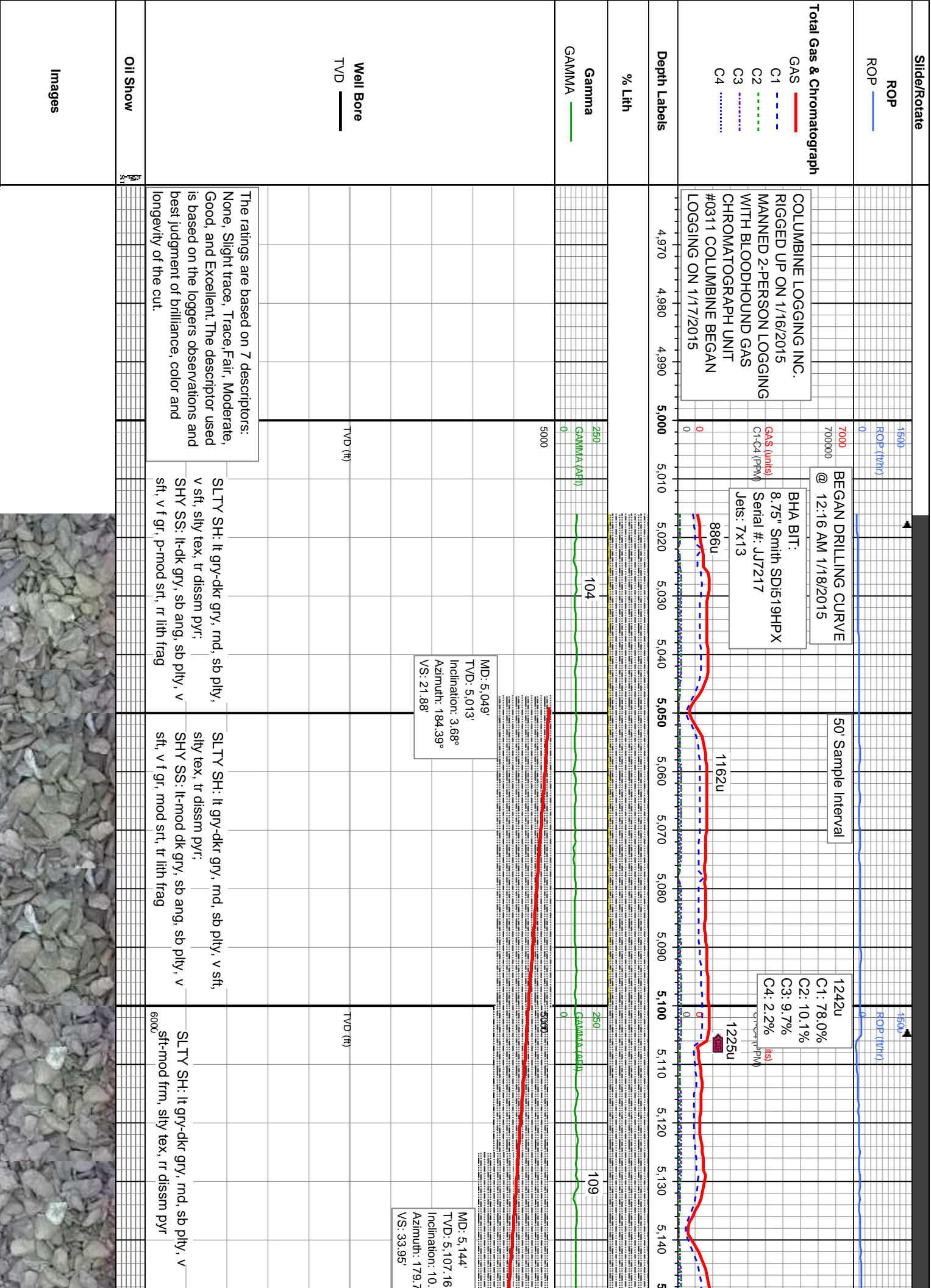
C CHALKY

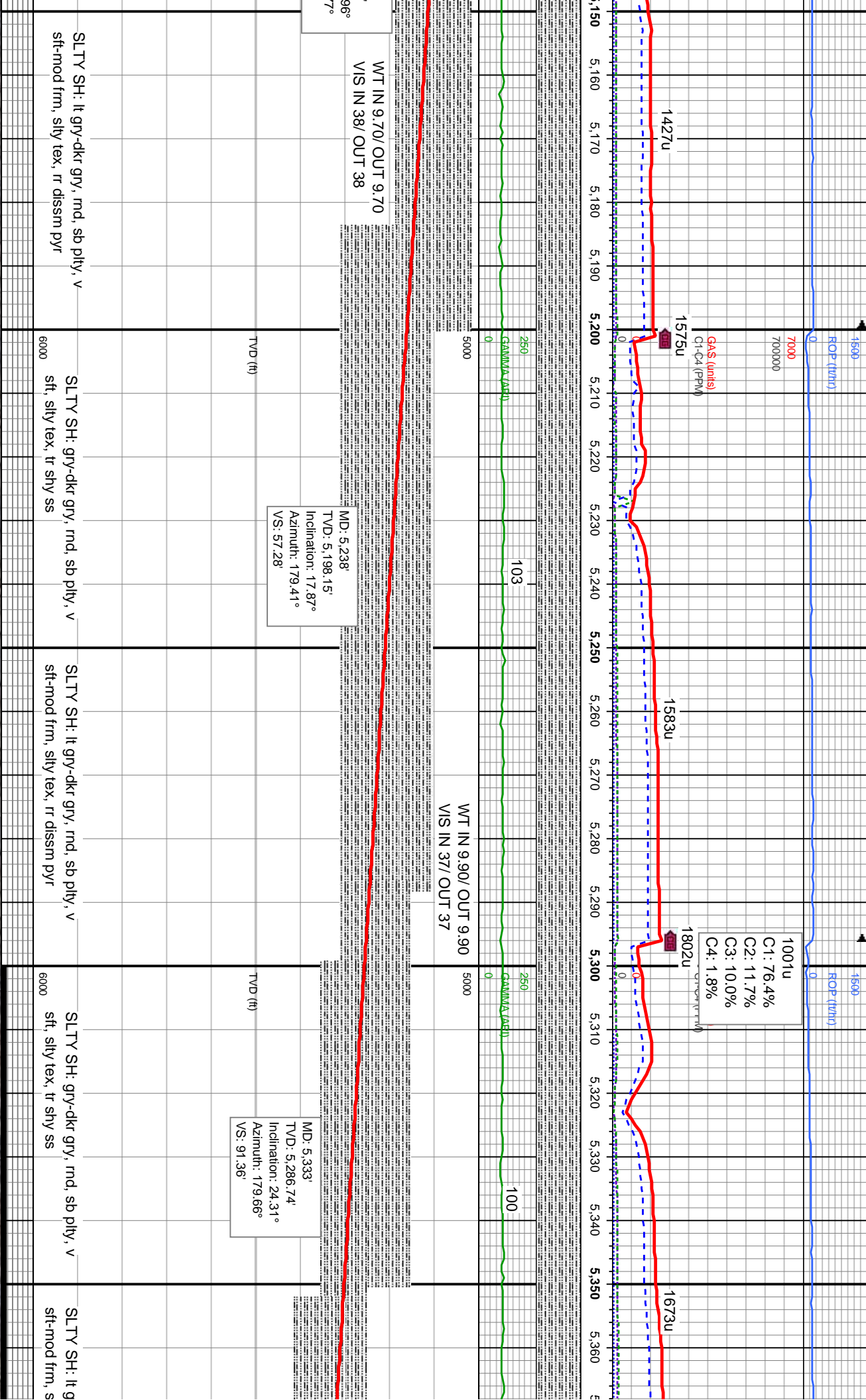
P POOR

 TRIP GAS

CX CRYPTOXLN

W WELL





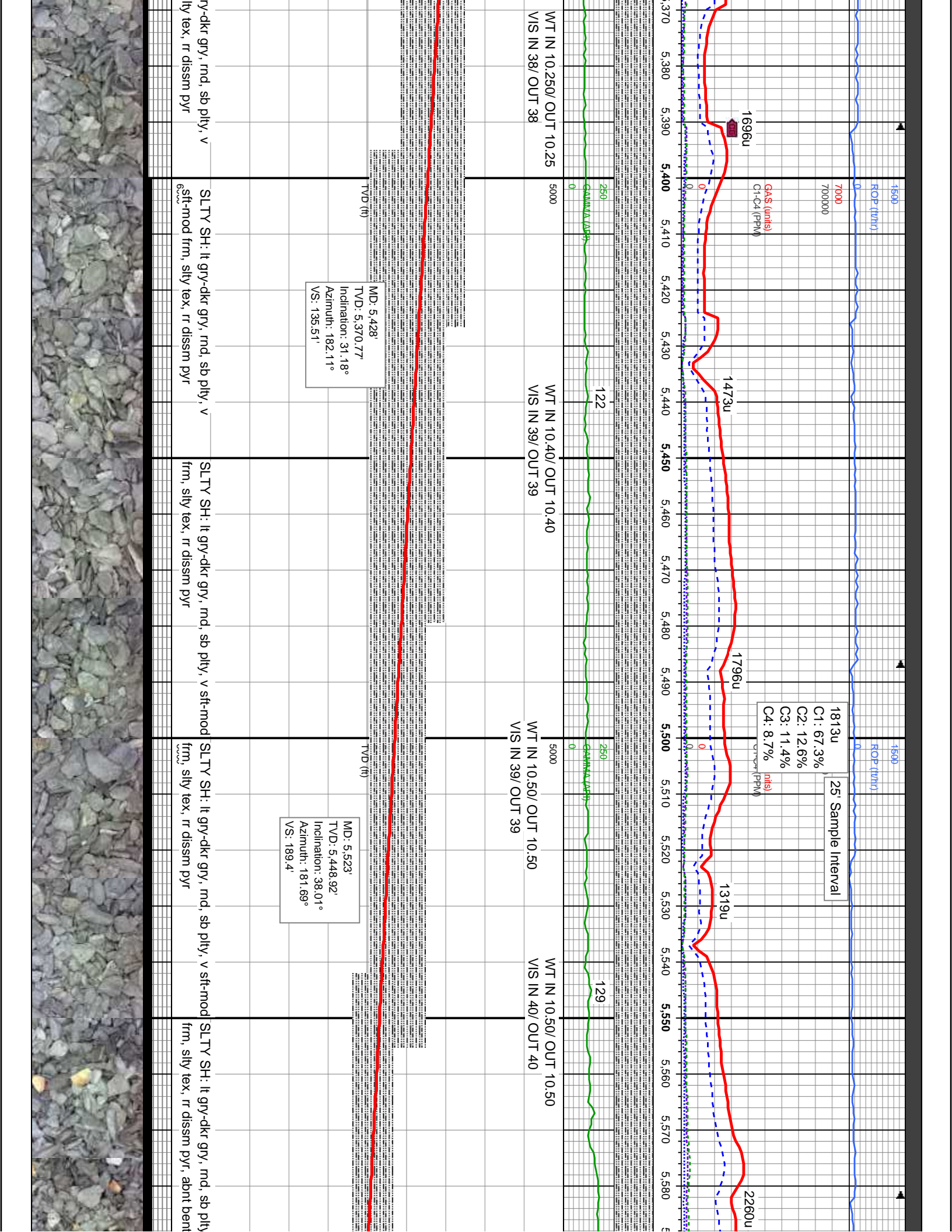
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sft-mod frm, silty tex, rr dissn pyr

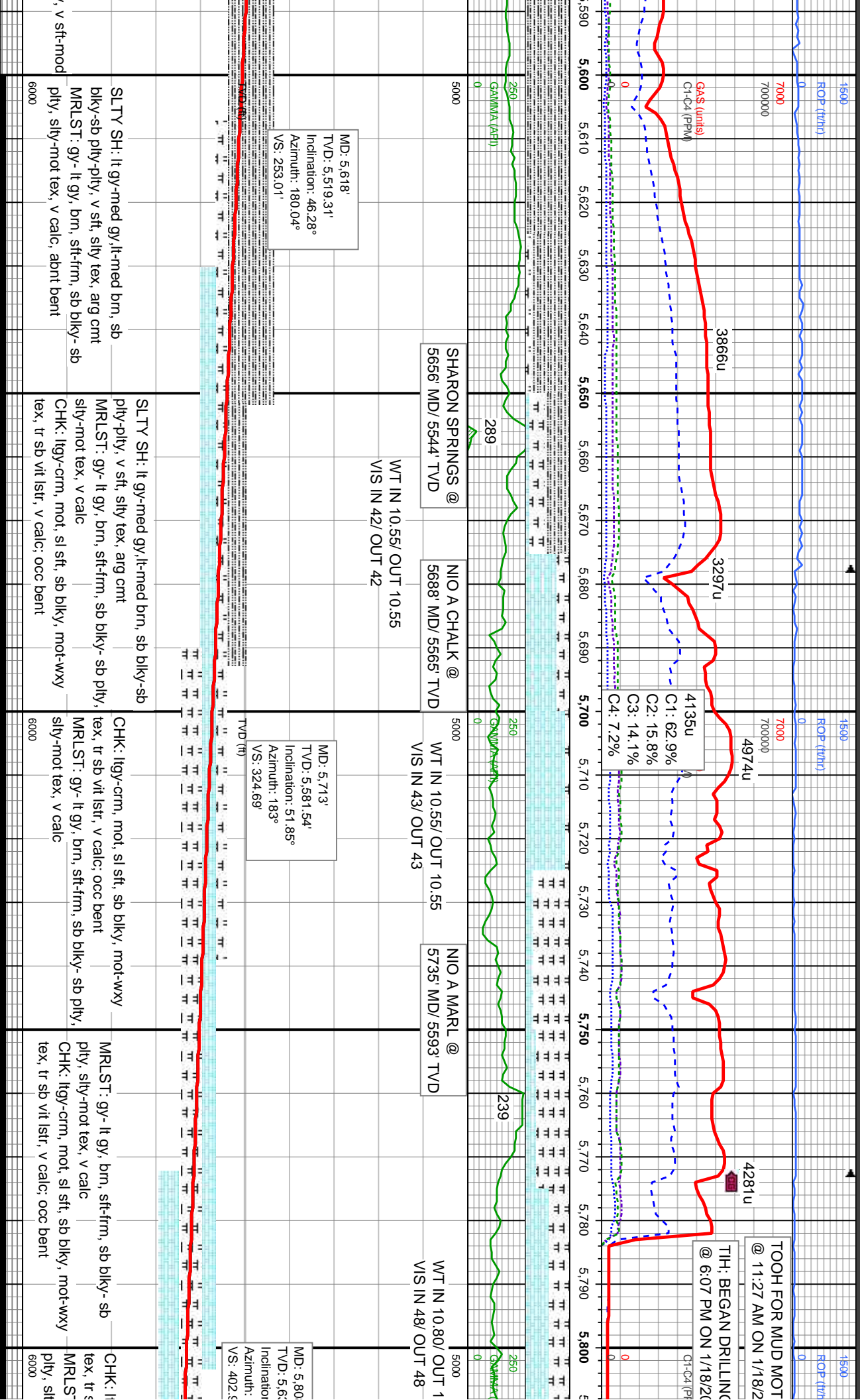
SLTY SH: gry-dkr gry, md, sb plty, v
sft, silty tex, tr shy ss

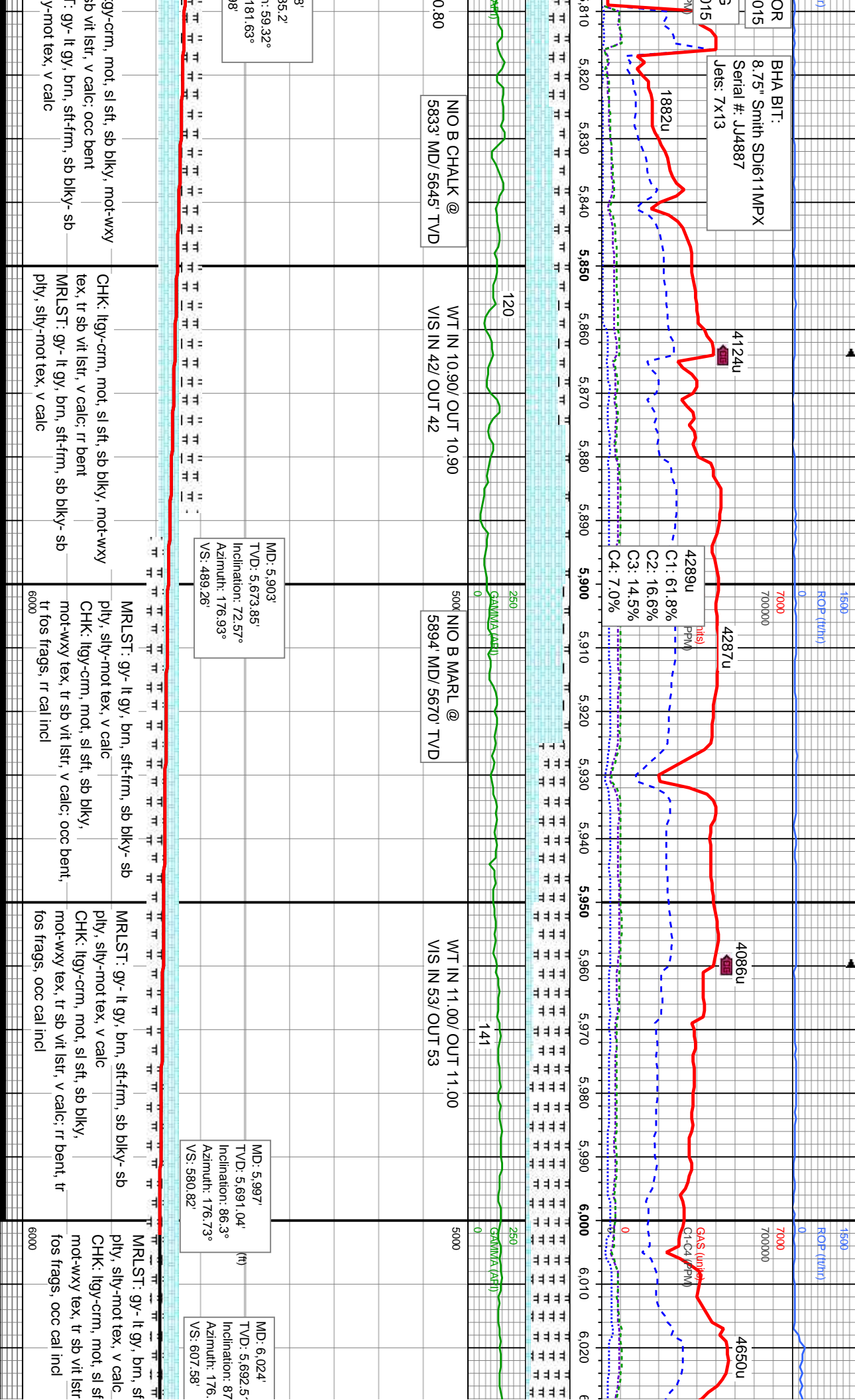
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sft-mod frm, silty tex, rr dissn pyr

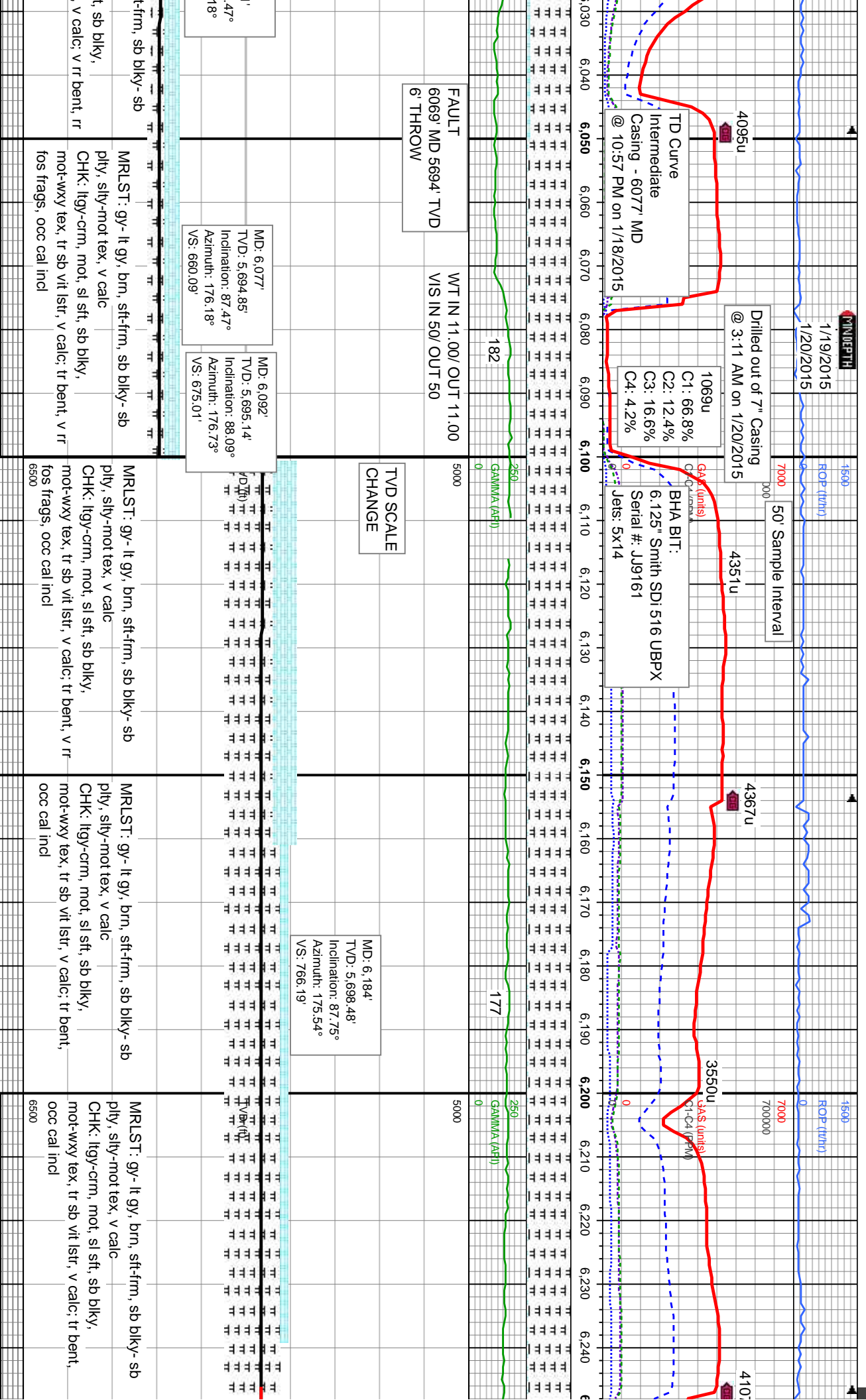
SLTY SH: gry-dkr gry, md, sb plty, v
sft, silty tex, tr shy ss

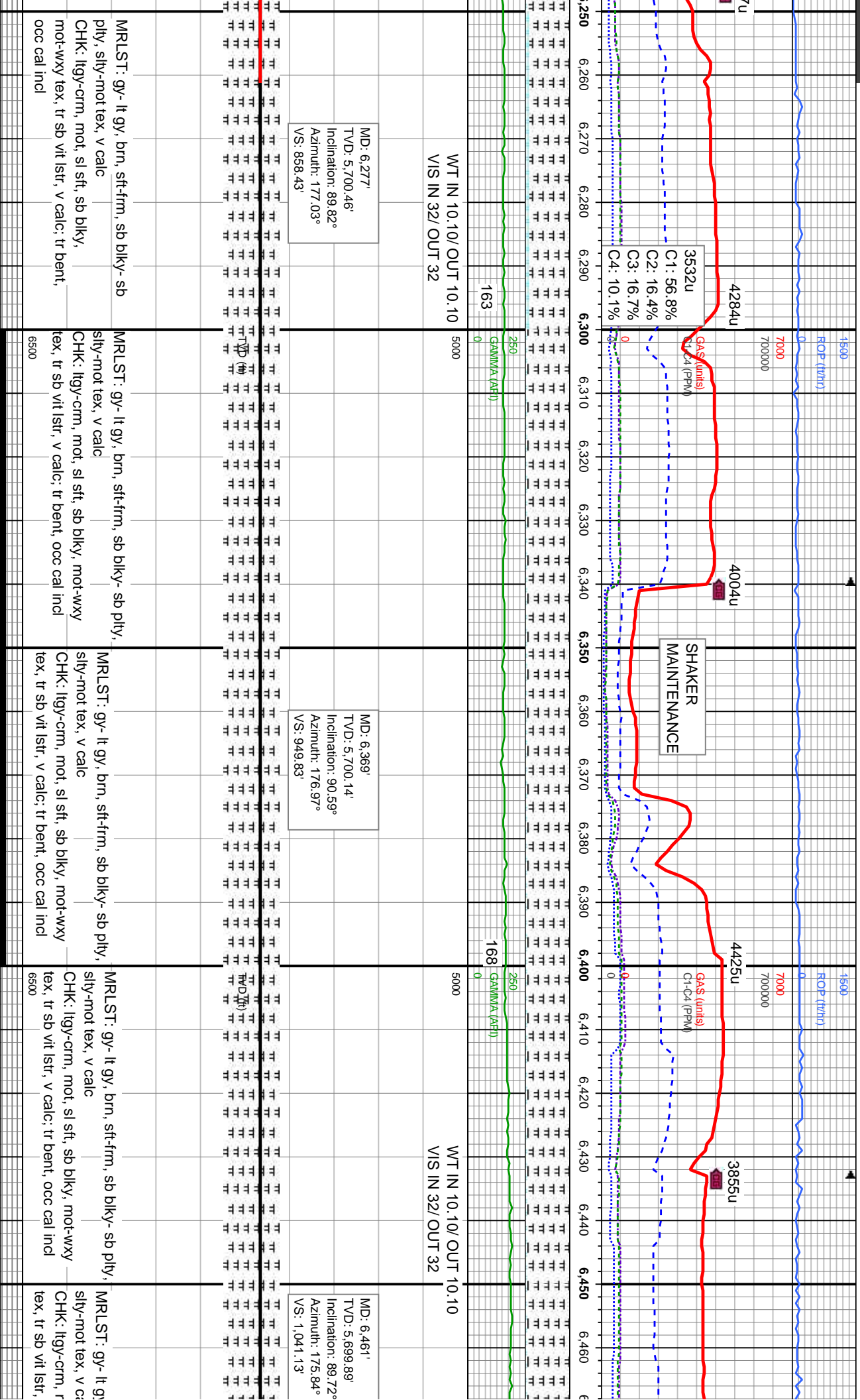
SLTY SH: lt g
sft-mod frm, s

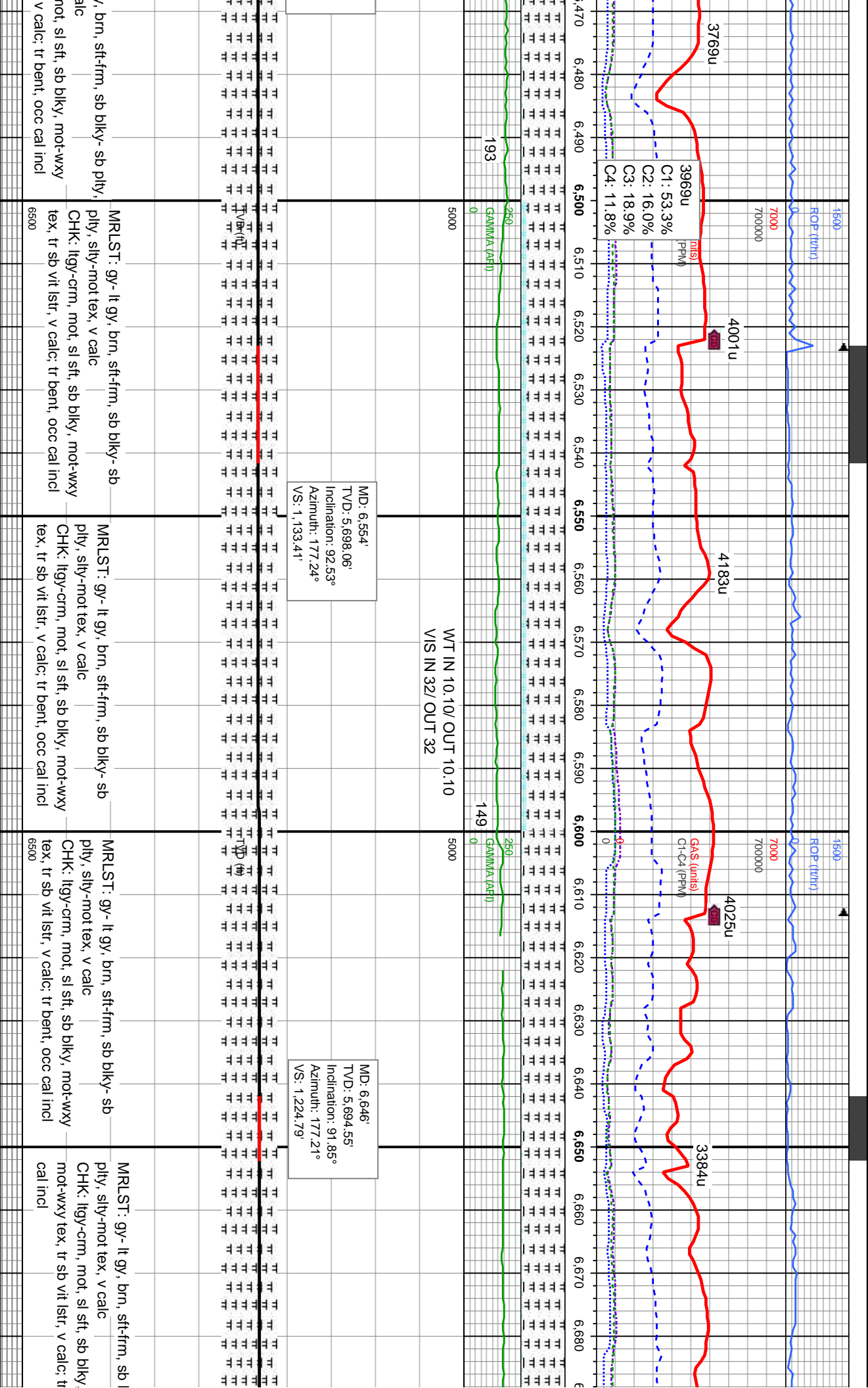


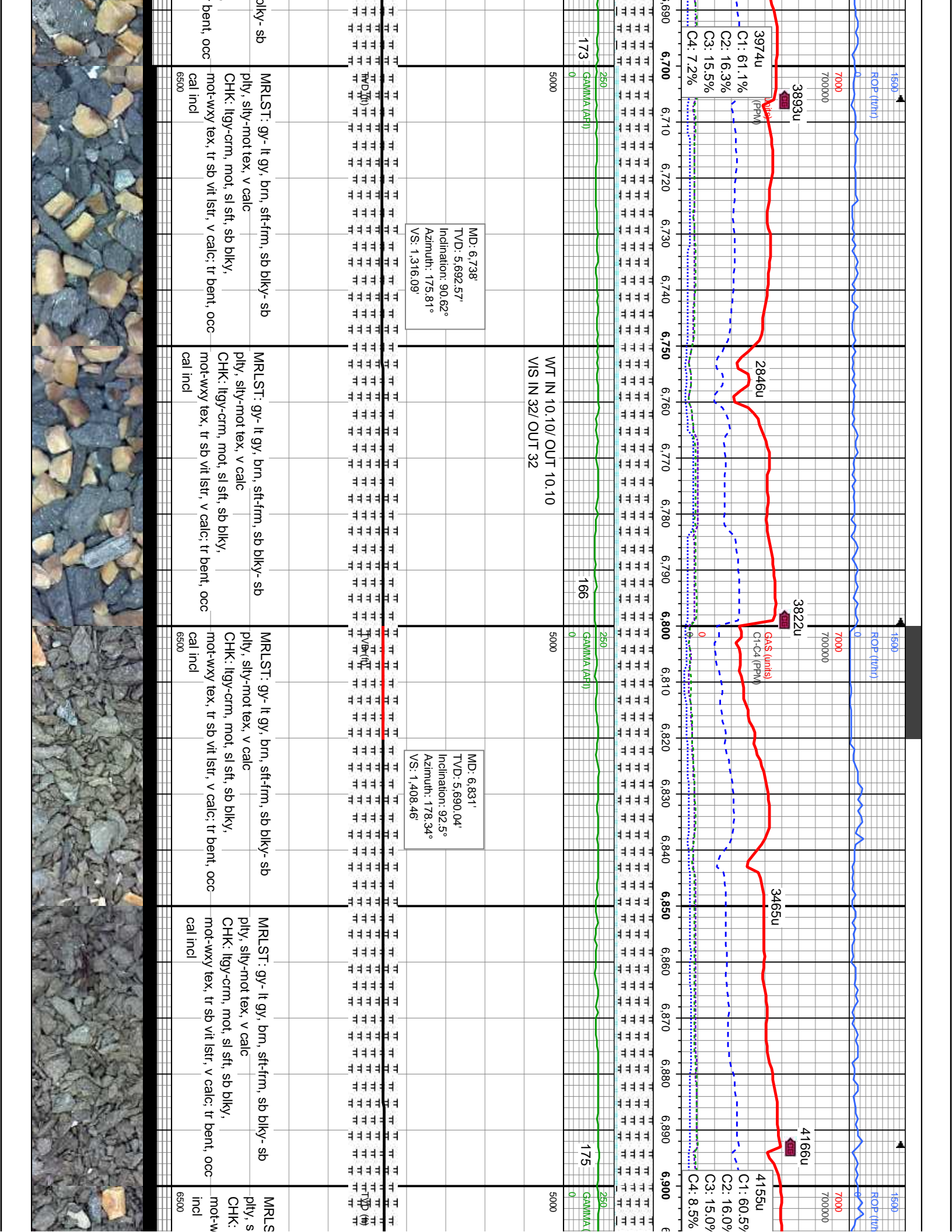


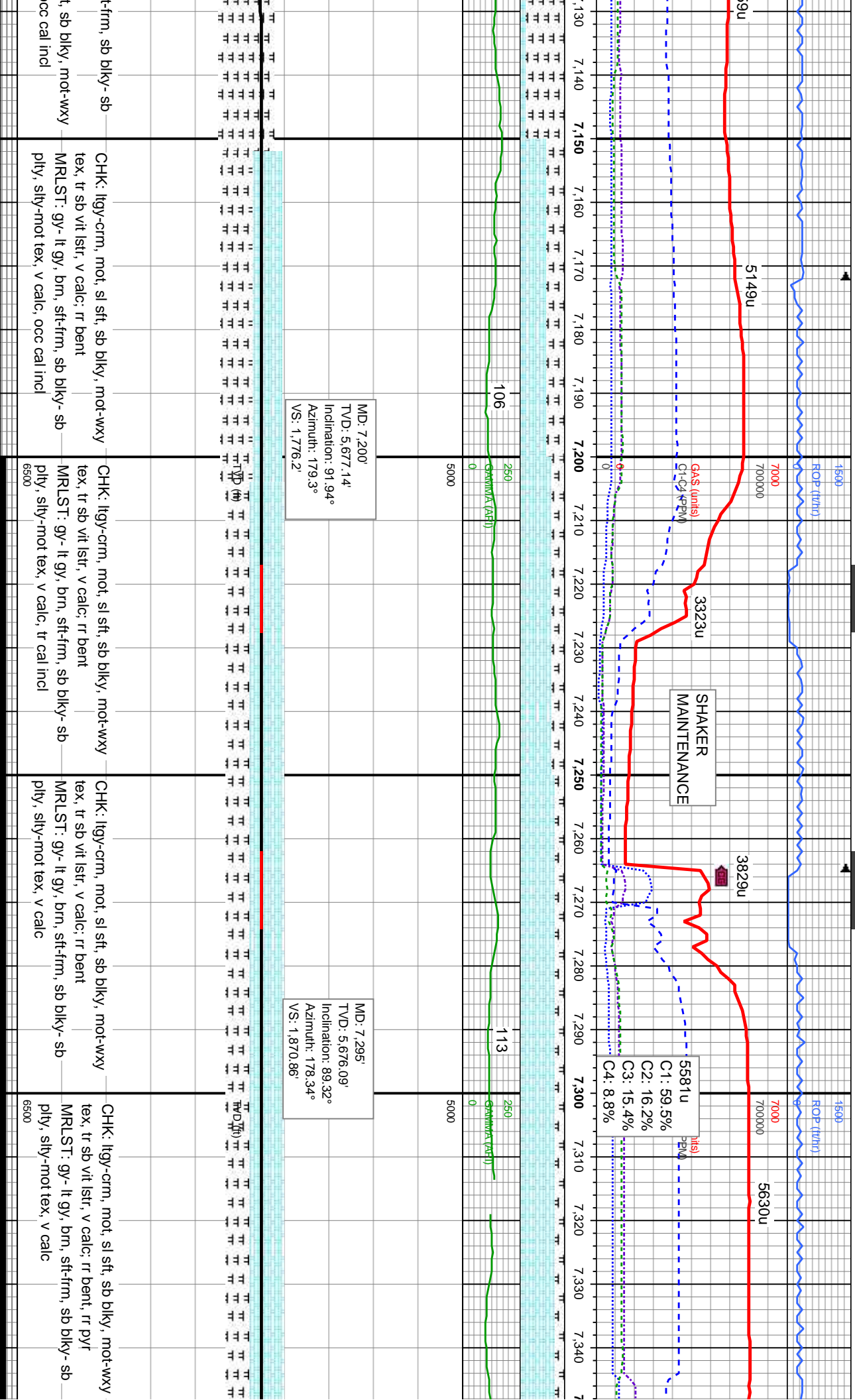


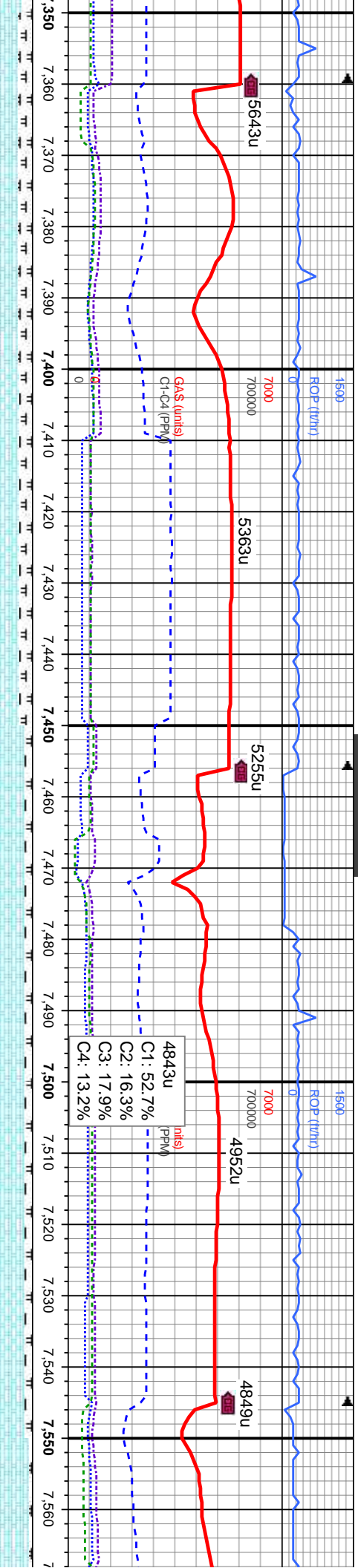












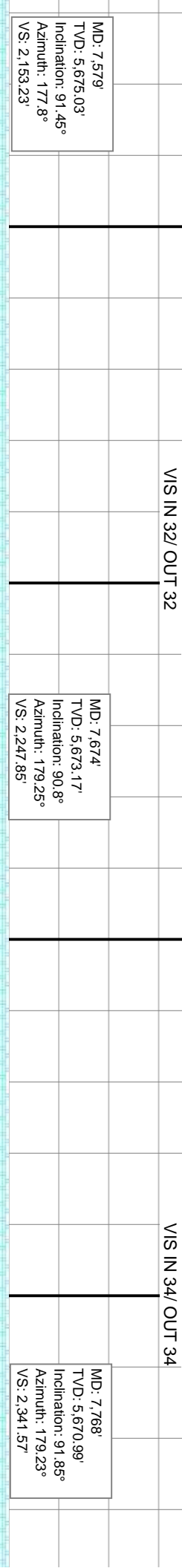
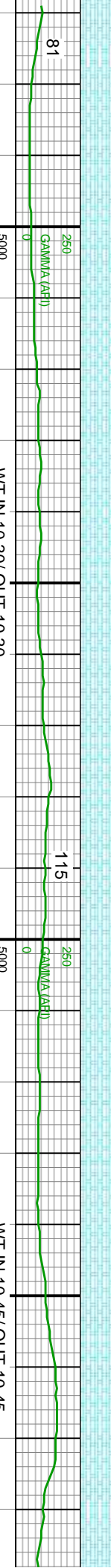
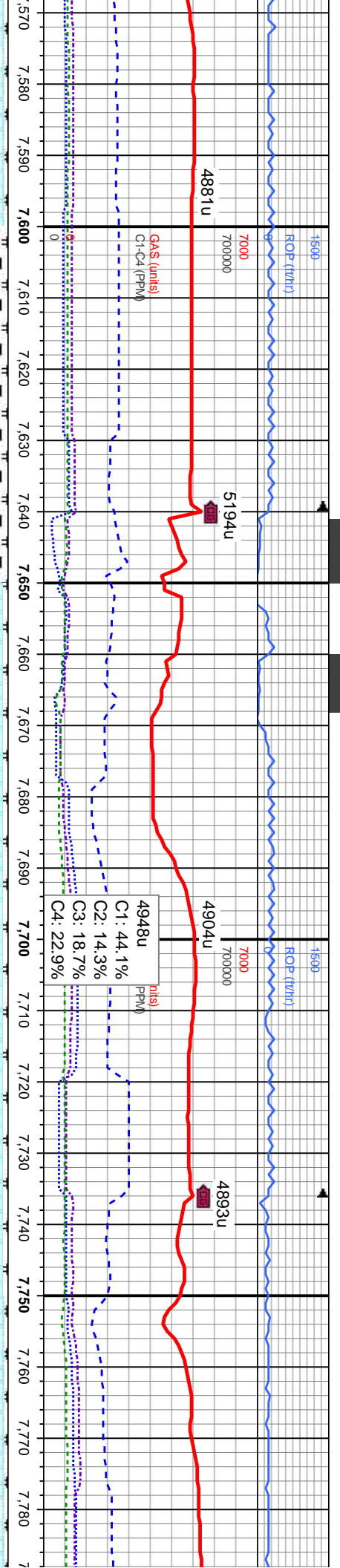
MD: 7.389'
TVD: 5,676.92'
Inclination: 89.66°
Azimuth: 176.02°
VS: 1,964.28'

MD: 7.484'
TVD: 5,676.72'
Inclination: 90.59°
Azimuth: 178.2°
VS: 2,058.69'

WT IN 10.15/ OUT 10.15
VIS IN 32/ OUT 32

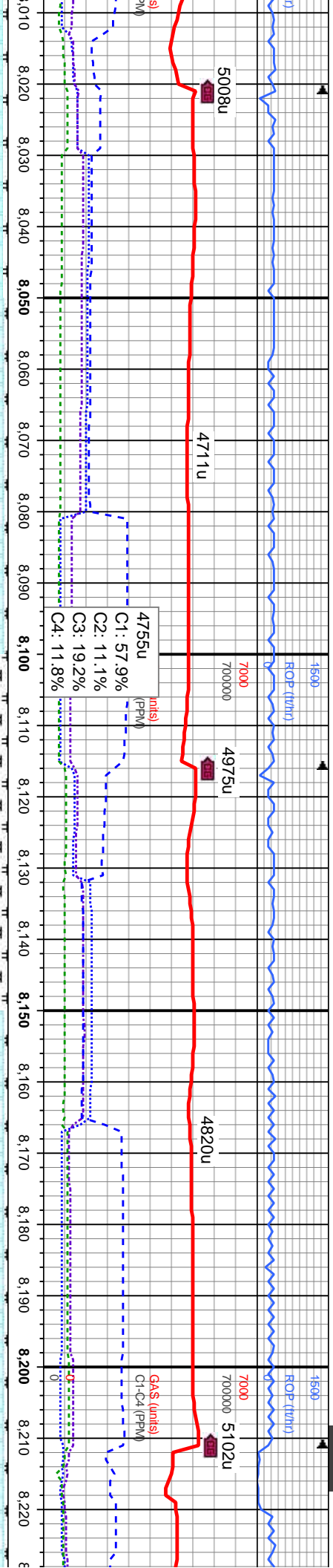
CHK: ltgy-crm, mot, sl sft, sb blk, mot-wxy tex, tr sb vit lstr, v calc; MRLST: gy- lt gy, brn, sft-fm, sb blk- sb ply, slty-mot tex, v calc	CHK: ltgy-crm, mot, sl sft, sb blk, mot-wxy tex, tr sb vit lstr, v calc; MRLST: gy- lt gy, brn, sft-fm, sb blk- sb ply, slty-mot tex, v calc, rr cal incl	CHK: ltgy-crm, mot, sl sft, sb blk, mot-wxy tex, tr sb vit lstr, v calc; MRLST: gy- lt gy, brn, sft-fm, sb blk- sb ply, slty-mot tex, v calc, tr cal incl, v rr foss	CHK: ltgy-crm, mot, sl sft, sb blk, mot-wxy tex, tr sb vit lstr, v calc; MRLST: gy- lt gy, brn, sft-fm, sb blk- sb ply, slty-mot tex, v calc, v rr foss	CHK: ltgy-crm, mot, sl sft, sb blk, mot-wxy tex, tr sb vit lstr, v calc; MRLST: gy- lt gy, brn, sft-fm, sb blk- sb ply, slty-mot tex, v calc, v rr foss
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mot, sl sft, sb blk, mot-wxy v calc;	CHK: ltgy-crm, mot, sl sft, sb blk, mot-wxy tex, tr sb vit lstr, v calc; MRLST: gy- lt gy, brn, sft-frm, sb blk- sb ply, slty-mot tex, v calc, v rr cal incl	CHK: ltgy-crm, mot, sl sft, sb blk, mot-wxy tex, tr sb vit lstr, v calc; MRLST: gy- lt gy, brn, sft-frm, sb blk- sb ply, slty-mot tex, v calc, v rr cal incl, rr foss frags	CHK: ltgy-crm, mot, sl sft, sb blk, mot-wxy tex, tr sb vit lstr, v calc; MRLST: gy- lt gy, brn, sft-frm, sb blk- sb ply, slty-mot tex, v calc, v rr cal incl, v rr foss frags	CHK: ltgy-crm, mot, sl sft, sb blk, mot-wxy tex, tr sb vit lstr, v calc; MRLST: gy- lt gy, brn, sft-frm, sb blk- sb ply, slty-mot tex, v calc
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4755u
C1: 57.9%
C2: 11.1%
C3: 19.2%
C4: 11.8%

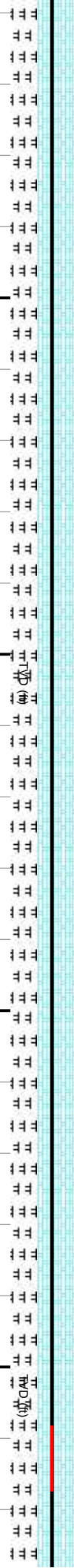
GAs (units)
C1-C4 (PPM)

WT IN 10.50/ OUT 10.50
VIS IN 34/ OUT 34

WT IN 10.55/ OUT 10.55
VIS IN 34/ OUT 34

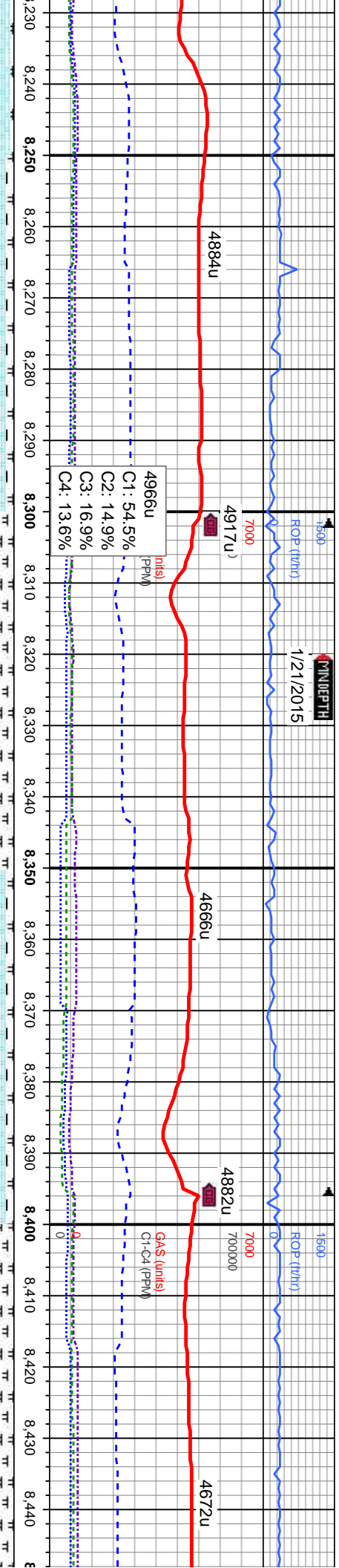
MD: 8.052'
TVD: 5.671.44'
Inclination: 89.57°
Azimuth: 179.15°
VS: 2.624.95'

MD: 8.146'
TVD: 5.672'
Inclination: 89.75°
Azimuth: 179.23°
VS: 2.718.69'



lty-crm, mot, sl sft, sb blký, mot-wxy sb vit lstr, v calc;	CHK: lty-crm, mot, sl sft, sb blký, mot-wxy tex, tr sb vit lstr, v calc;	CHK: lty-crm, mot, sl sft, sb blký, mot-wxy tex, tr sb vit lstr, v calc;	CHK: lty-crm, mot, sl sft, sb blký, mot-wxy tex, tr sb vit lstr, v calc;
T: gy- lt gy, brn, sft-frm, sb blký- sb lty-mot tex, v calc	MRLST: gy- lt gy, brn, sft-frm, sb blký- sb plty, slty-mot tex, v calc	MRLST: gy- lt gy, brn, sft-frm, sb blký- sb plty, slty-mot tex, v calc; tr pyr	MRLST: gy- lt gy, brn, sft-frm, sb blký- sb plty, slty-mot tex, v calc;

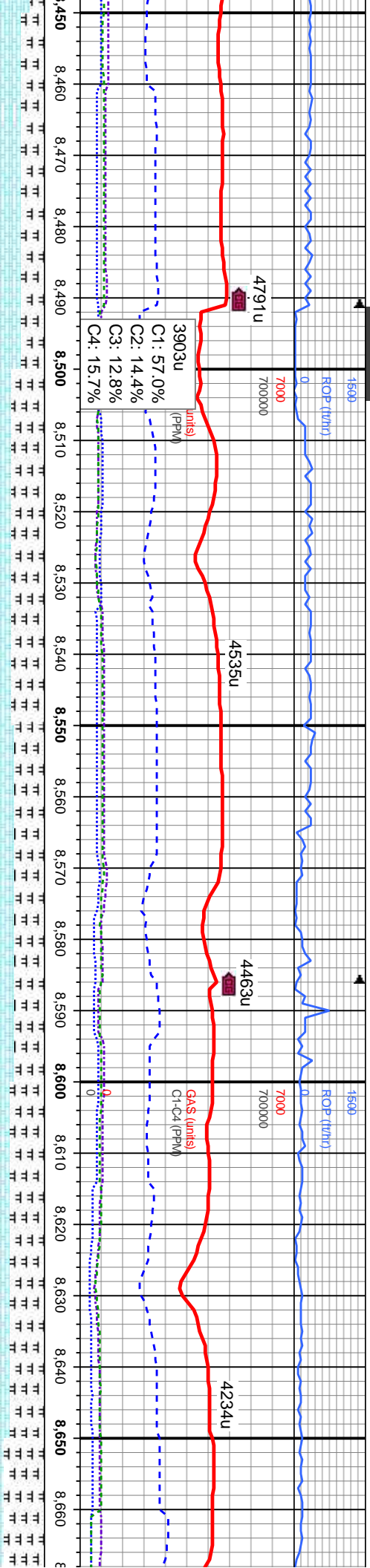




MD: 8,240' TVD: 5,671.27' Inclination: 91.14° Azimuth: 180.12° VS: 2,812.47'	WT IN 10.50 / OUT 10.50 VIS IN 34 / OUT 34	123 250 0 Gamma (API)	MD: 8,335' TVD: 5,669.84' Inclination: 90.59° Azimuth: 179.38° VS: 2,907.26'	WT IN 10.55 / OUT 10.55 VIS IN 34 / OUT 34	77 250 0 Gamma (API)	MD: 8,429' TVD: 5,669.41' Inclination: 89.94° Azimuth: 179.34° VS: 3,001.01'
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sb blkly, mot-wxy	CHK: ltgy-crm, mot, sl sft, sb blkly, mot-wxy tex, tr sb vit lst, v calc;	CHK: ltgy-crm, mot, sl sft, sb blkly, mot-wxy tex, tr sb vit lst, v calc;	CHK: ltgy-crm, mot, sl sft, sb blkly, mot-wxy tex, tr sb vit lst, v calc;	CHK: ltgy-crm, mot, sl sft, sb blkly, mot-wxy tex, tr sb vit lst, v calc;	CHK: ltgy-crm, mot, sl sft, sb blkly, mot-wxy tex, tr sb vit lst, v calc;
frm, sb blkly- sb	MRLST: gy- lt gy, brn, sft-frm, sb blkly- sb plty,	MRLST: gy- lt gy, brn, sft-frm, sb blkly- sb plty,	MRLST: gy- lt gy, brn, sft-frm, sb blkly- sb plty,	MRLST: gy- lt gy, brn, sft-frm, sb blkly- sb plty,	MRLST: gy- lt gy, brn, sft-frm, sb blkly- sb plty,
rr fos frags, rr pyr	sily-mot tex, v calc; v rr fos frags, tr cal incl	sily-mot tex, v calc; v rr fos frags, occ cal incl	sily-mot tex, v calc; v rr fos frags, occ cal incl	sily-mot tex, v calc; v rr fos frags, occ cal incl	sily-mot tex, v calc; v rr fos frags, occ cal incl





3903u
C1: 57.0%
C2: 14.4%
C3: 12.8%
C4: 15.7%

WT IN 10.60/ OUT 10.60
VIS IN 34/ OUT 34

MD: 8.524'
TVD: 5.668.08'
Inclination: 91.67°
Azimuth: 181.9°
VS: 3.095.87

WT IN 10.60/ OUT 10.60
VIS IN 34/ OUT 34

MD: 8.619'
TVD: 5.665.29'
Inclination: 91.69°
Azimuth: 182.8°
VS: 3.190.81

CHK: ltgy-crm, mot, sl sft, sb blk, mot-wxy tex, tr sb vit lstr, v calc;
MRLST: gy- lt gy, brn, sft-frm, sb blk- sb ply, slty-mot tex, v calc;
ply, slty-mot tex, v calc;
CHK: ltgy-crm, mot, sl sft, sb blk, mot-wxy tex, tr sb vit lstr, v calc; occ fos frags, tr cal incl, occ bent

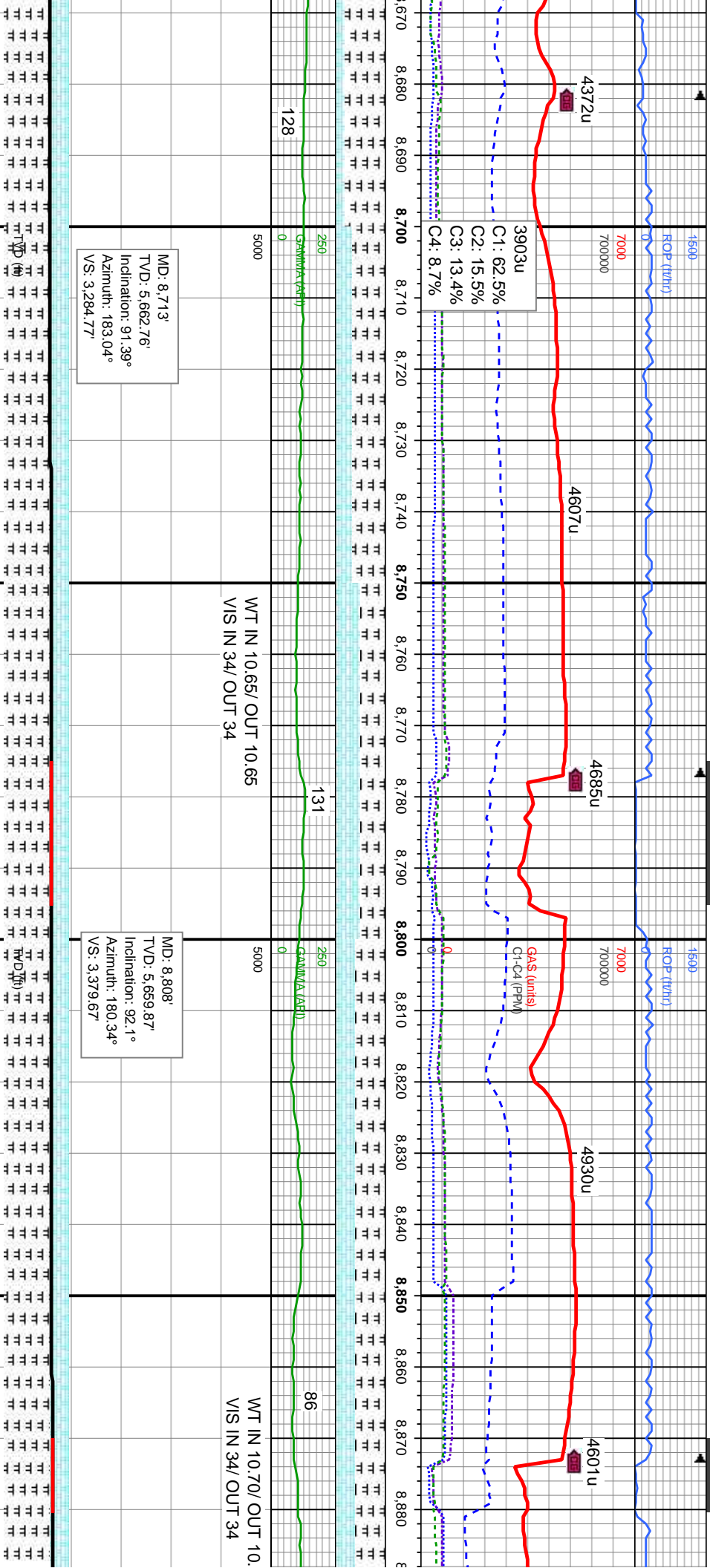
MRLST: gy- lt gy, brn, sft-frm, sb blk- sb ply, slty-mot tex, v calc;
CHK: ltgy-crm, mot, sl sft, sb blk, mot-wxy tex, tr sb vit lstr, v calc; occ cal incl, occ fos frags, tr bent

MRLST: gy- lt gy, brn, sft-frm, sb blk- sb ply, slty-mot tex, v calc;
CHK: ltgy-crm, mot, sl sft, sb blk, mot-wxy tex, tr sb vit lstr, v calc; occ cal incl, occ fos frags, tr bent

MRLST: gy- lt gy, brn, sft-frm, sb blk- sb ply, slty-mot tex, v calc;
CHK: ltgy-crm, mot, sl sft, sb blk, mot-wxy tex, tr sb vit lstr, v calc; occ cal incl, occ fos frags, occ bent

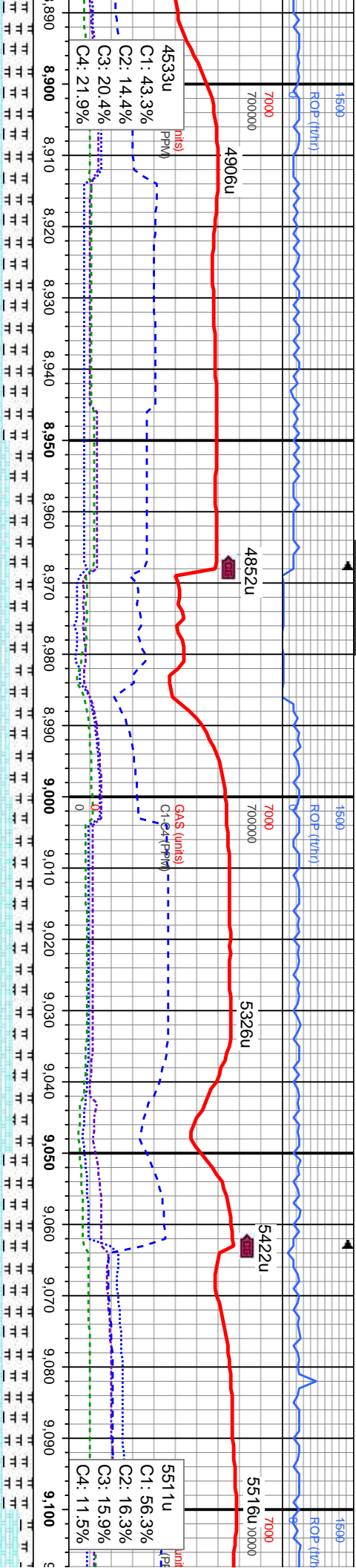
MRLST: gy- lt g
ply, slty-mot te
CHK: ltgy-crm,
tex, tr sb vit lstr
frags, tr bent





3903u	4372u	4607u	4685u	4930u	4601u
C1: 62.5%	C1: 62.5%	C1: 62.5%	C1: 62.5%	C1: 62.5%	C1: 62.5%
C2: 15.5%	C2: 15.5%	C2: 15.5%	C2: 15.5%	C2: 15.5%	C2: 15.5%
C3: 13.4%	C3: 13.4%	C3: 13.4%	C3: 13.4%	C3: 13.4%	C3: 13.4%
C4: 8.7%	C4: 8.7%	C4: 8.7%	C4: 8.7%	C4: 8.7%	C4: 8.7%
GA5 (units)	GA5 (units)	GA5 (units)	GA5 (units)	GA5 (units)	GA5 (units)
C1-C4 (PPM)	C1-C4 (PPM)	C1-C4 (PPM)	C1-C4 (PPM)	C1-C4 (PPM)	C1-C4 (PPM)
128	131	131	131	131	131
5000	5000	5000	5000	5000	5000
WT IN 10.65/ OUT 10.65 VIS IN 34/ OUT 34	WT IN 10.65/ OUT 10.65 VIS IN 34/ OUT 34	WT IN 10.65/ OUT 10.65 VIS IN 34/ OUT 34	WT IN 10.65/ OUT 10.65 VIS IN 34/ OUT 34	WT IN 10.65/ OUT 10.65 VIS IN 34/ OUT 34	WT IN 10.65/ OUT 10.65 VIS IN 34/ OUT 34
MD: 8.713' TVD: 5,662.76' Inclination: 91.39° Azimuth: 183.04° VS: 3,284.77'	MD: 8.713' TVD: 5,662.76' Inclination: 91.39° Azimuth: 183.04° VS: 3,284.77'	MD: 8.713' TVD: 5,662.76' Inclination: 91.39° Azimuth: 183.04° VS: 3,284.77'	MD: 8.713' TVD: 5,662.76' Inclination: 91.39° Azimuth: 183.04° VS: 3,284.77'	MD: 8.713' TVD: 5,662.76' Inclination: 91.39° Azimuth: 183.04° VS: 3,284.77'	MD: 8.713' TVD: 5,662.76' Inclination: 91.39° Azimuth: 183.04° VS: 3,284.77'
MRSLT: gy- lt gy, brn, sft-fm, sb blk- sb ply, silty-mot tex, v calc CHK: ltgy-crm, mot, sl sft, sb blk, mot-wxy tex, tr sb vit lstr, v calc, occ cal incl, occ fos frags, tr bent	MRSLT: gy- lt gy, brn, sft-fm, sb blk- sb ply, silty-mot tex, v calc CHK: ltgy-crm, mot, sl sft, sb blk, mot-wxy tex, tr sb vit lstr, v calc, occ cal incl, occ fos frags, tr bent	MRSLT: gy- lt gy, brn, sft-fm, sb blk- sb ply, silty-mot tex, v calc CHK: ltgy-crm, mot, sl sft, sb blk, mot-wxy tex, tr sb vit lstr, v calc, occ cal incl, occ fos frags, tr bent	MRSLT: gy- lt gy, brn, sft-fm, sb blk- sb ply, silty-mot tex, v calc CHK: ltgy-crm, mot, sl sft, sb blk, mot-wxy tex, tr sb vit lstr, v calc, occ cal incl, occ fos frags, tr bent	MRSLT: gy- lt gy, brn, sft-fm, sb blk- sb ply, silty-mot tex, v calc CHK: ltgy-crm, mot, sl sft, sb blk, mot-wxy tex, tr sb vit lstr, v calc, occ cal incl, occ fos frags, tr bent	MRSLT: gy- lt gy, brn, sft-fm, sb blk- sb ply, silty-mot tex, v calc CHK: ltgy-crm, mot, sl sft, sb blk, mot-wxy tex, tr sb vit lstr, v calc, occ cal incl, occ fos frags, tr bent





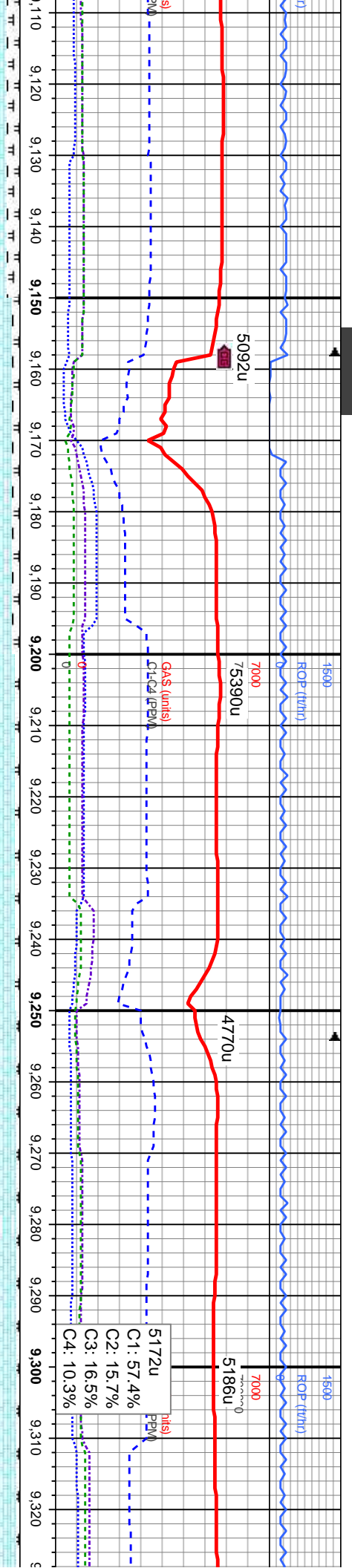
MD: 8.902'
TVD: 5.656.33'
Inclination: 92.22°
Azimuth: 179.56°
VS: 3.473.42'

MD: 8.997'
TVD: 5.654.03'
Inclination: 90.55°
Azimuth: 178.81°
VS: 3.568.12'

MD: 9.092'
TVD: 5.652.4'
Inclination: 91.42°
Azimuth: 178.87°
VS: 3.662.79'

70	5000	WT IN 10.60 OUT 10.60 VIS IN 34/ OUT 34	5000	WT IN 10 VIS IN 34	5000
sb	MRLST: gy- lt gy, brn, sft-frn, sb blk- sb ply, sily-mot tex, v calc	CHK: ltgy-crm, mot, sl sft, sb blk, mot-wxy tex, tr sb vit lstr, v calc; abnt cal incl, occ fos frags, tr bent	CHK: ltgy-crm, mot, sl sft, sb blk, mot-wxy tex, tr sb vit lstr, v calc; abnt cal incl, occ fos frags, tr bent	CHK: ltgy-crm, mot, sl sft, sb blk, mot-wxy tex, tr sb vit lstr, v calc; abnt cal incl, occ fos frags, tr bent	CHK: ltgy-crm, mot, sl sft, sb blk, mot-wxy tex, tr sb vit lstr, v calc; abnt cal incl, occ fos frags, tr bent
mot-wxy	6500		6500		6500
cl, occ fos					





55/ OUT 10.55
OUT 34

WT IN 10.50/ OUT 10.50
VIS IN 35/ OUT 35

MD: 9.186'
TVD: 5.650.8'
Inclination: 90.52°
Azimuth: 177.03°
VS: 3.756.33'

103

250
GA\$ (units)
C1: 57.4%
C2: 15.7%
C3: 16.5%
C4: 10.3%

5000

98

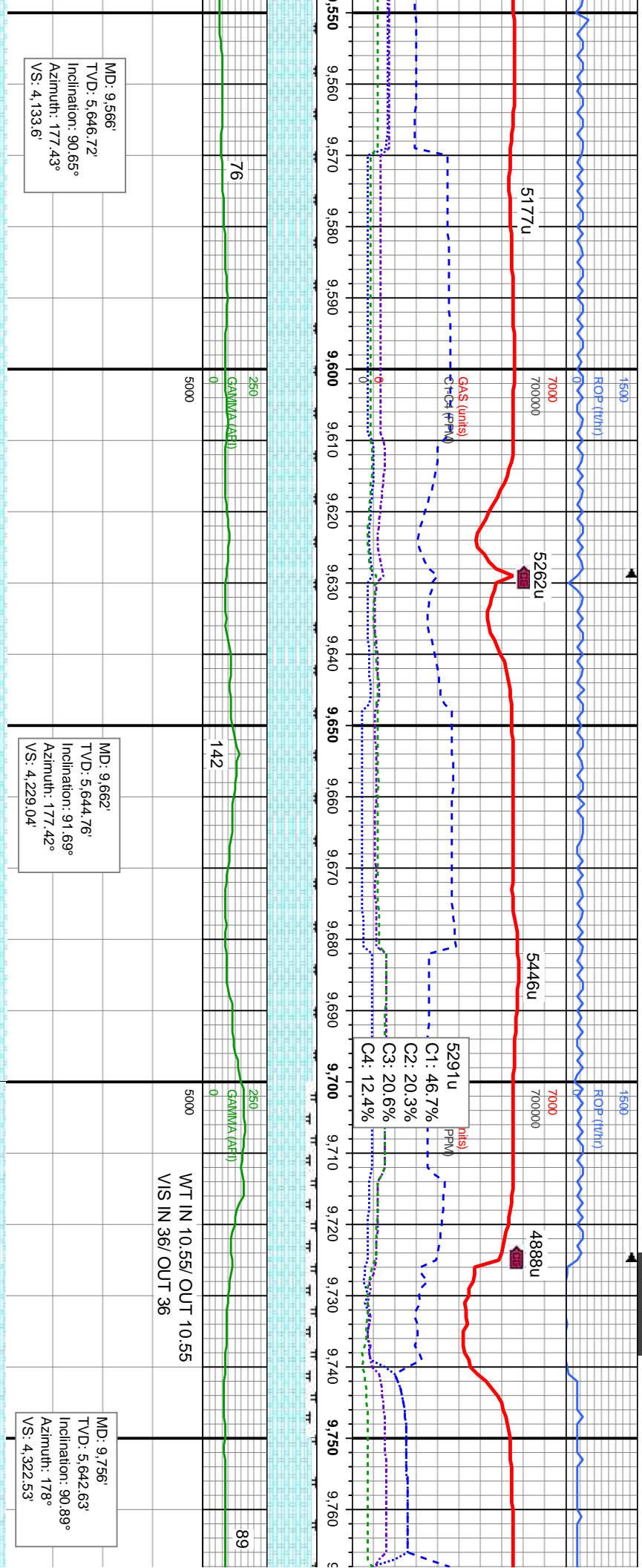
250
GA\$ (units)
C1: 57.4%
C2: 15.7%
C3: 16.5%
C4: 10.3%

5000

MD: 9.282'
TVD: 5.649.38'
Inclination: 91.17°
Azimuth: 176.56°
VS: 3.851.66'

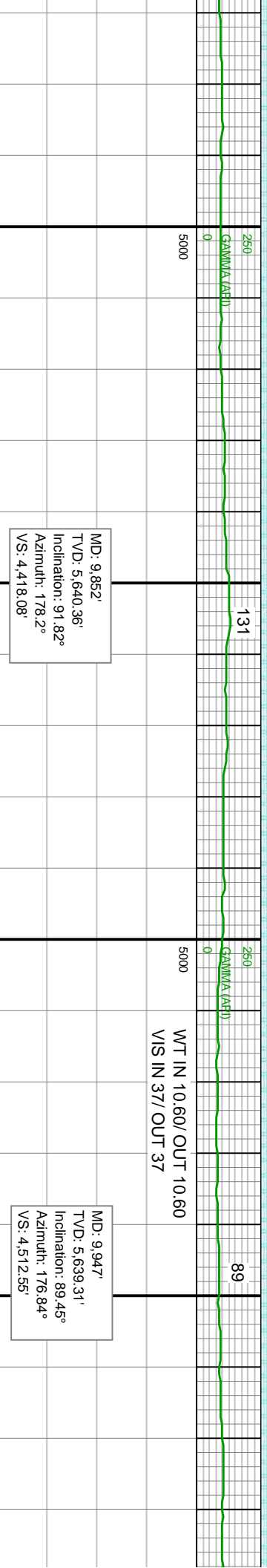
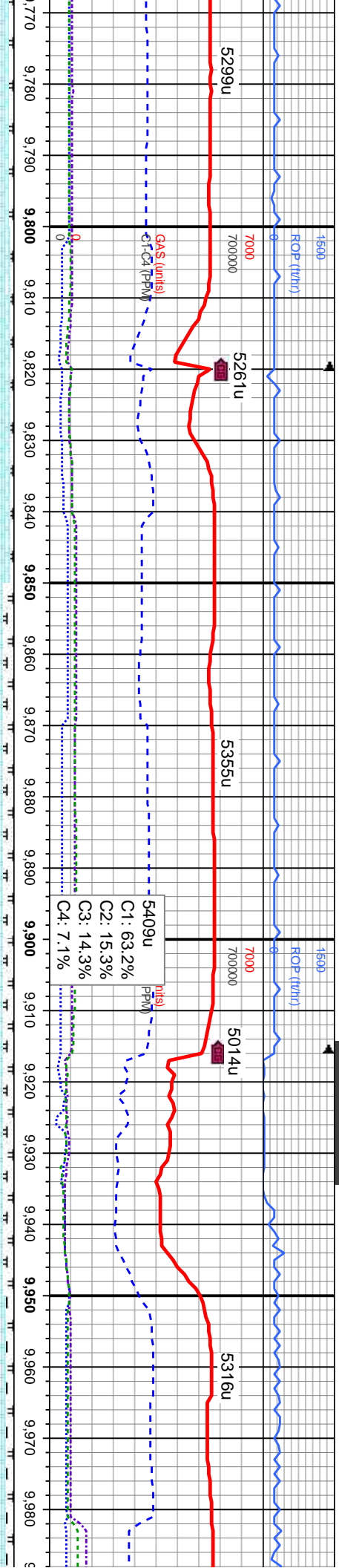
ltgy-crm, mot, sl sft, sb blk, mot-wxy sb vit lstr, v calc; tr cal incl, tr fos tr bent	CHK: ltgy-crm, mot, sl sft, sb blk, mot-wxy tex, tr sb vit lstr, v calc; tr cal incl, tr fos frags, tr bent	CHK: ltgy-crm, mot, sl sft, sb blk, mot-wxy tex, tr sb vit lstr, v calc; tr cal incl, tr fos frags, tr bent	CHK: ltgy-crm, mot, sl sft, sb blk, mot-wxy tex, tr sb vit lstr, v calc; tr cal incl, tr fos frags, tr bent
ST: gy- lt gy, brn, sft-frm, sb blk- sb ply, sily-mot tex, v calc	MRLST: gy- lt gy, brn, sft-frm, sb blk- sb ply, sily-mot tex, v calc	MRLST: gy- lt gy, brn, sft-frm, sb blk- sb ply, sily-mot tex, v calc	MRLST: gy- lt gy, brn, sft-frm, sb blk- sb ply, sily-mot tex, v calc





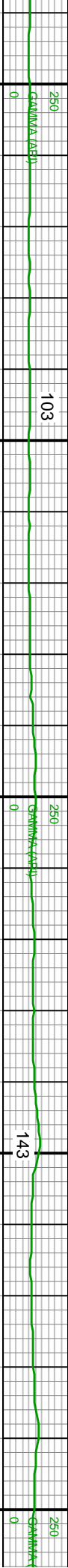
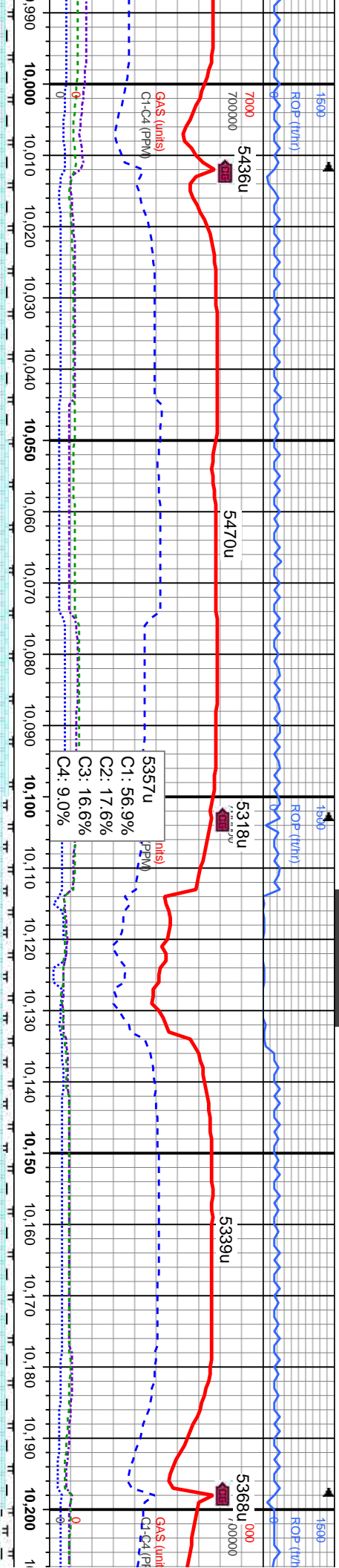
76	250 GAMMA (API)	0	5000	142	250 GAMMA (API)	0	5000	89	250 GAMMA (API)	0	5000
TVD (ft)											
CHC: ltgy-crm, mot, sl sft, sb blkly, mot-wxy tex, tr sb vit lstr, v calc, tr cal incl, tr fos frags MRLST: gy- lt gy, brn, sft-fm, sb blkly- sb ply, silty-mot tex, v calc											
CHC: ltgy-crm, mot, sl sft, sb blkly, mot-wxy tex, tr sb vit lstr, v calc, tr cal incl, tr fos frags MRLST: gy- lt gy, brn, sft-fm, sb blkly- sb ply, silty-mot tex, v calc											
CHC: ltgy-crm, mot, sl sft, sb blkly, mot-wxy tex, tr sb vit lstr, v calc; MRLST: gy- lt gy, brn, sft-fm, sb blkly- sb ply, silty-mot tex, v calc; tr cal incl, tr fos frags											
CHC: ltgy-crm, r tex, tr sb vit lstr, MRLST: gy- lt gy, silty-mot tex, v c											





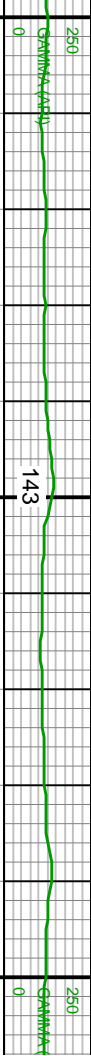
mot, sl sft, sb blkly, mot-wxy v calc;	CHK: ltgy-crm, mot, sl sft, sb blkly, mot-wxy tex, tr sb vit lstr, v calc; MRLST: gy- lt gy, brn, sft-frm, sb blkly- sb plty, sily-mot tex, v calc; tr cal incl, rr fos frags	6500
mot, sl sft, sb blkly, mot-wxy v calc;	CHK: ltgy-crm, mot, sl sft, sb blkly, mot-wxy tex, tr sb vit lstr, v calc; MRLST: gy- lt gy, brn, sft-frm, sb blkly- sb plty, sily-mot tex, v calc; tr cal incl	6500
mot, sl sft, sb blkly, mot-wxy v calc;	CHK: ltgy-crm, mot, sl sft, sb blkly, mot-wxy tex, tr sb vit lstr, v calc; MRLST: gy- lt gy, brn, sft-frm, sb blkly- sb plty, sily-mot tex, v calc; tr cal incl, rr fos frags	6500





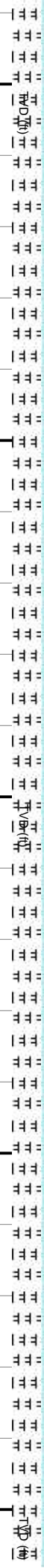
WT IN 10.60/ OUT 10.60
VIS IN 38/ OUT 38

MD: 10,041'
TVD: 5,640.58'
Inclination: 89.01°
Azimuth: 175.95°
VS: 4,605.82'



WT IN 10.60/ OUT 10.60	
VIS IN 37/ OUT 37	

MD: 10,136'
TVD: 5,640.63'
Inclination: 90.92°
Azimuth: 178.36°
VS: 4,700.22'



CHK: Itgy-crm, mot, sl sft, sb biky, mot-wxy

ky- sb ply, frags
6500
MR.LST: gy- lt gy, brn, sft-firm, sb bkly- sb ply, slty-mot tex, v calc; tr cal incl, tr fos frags

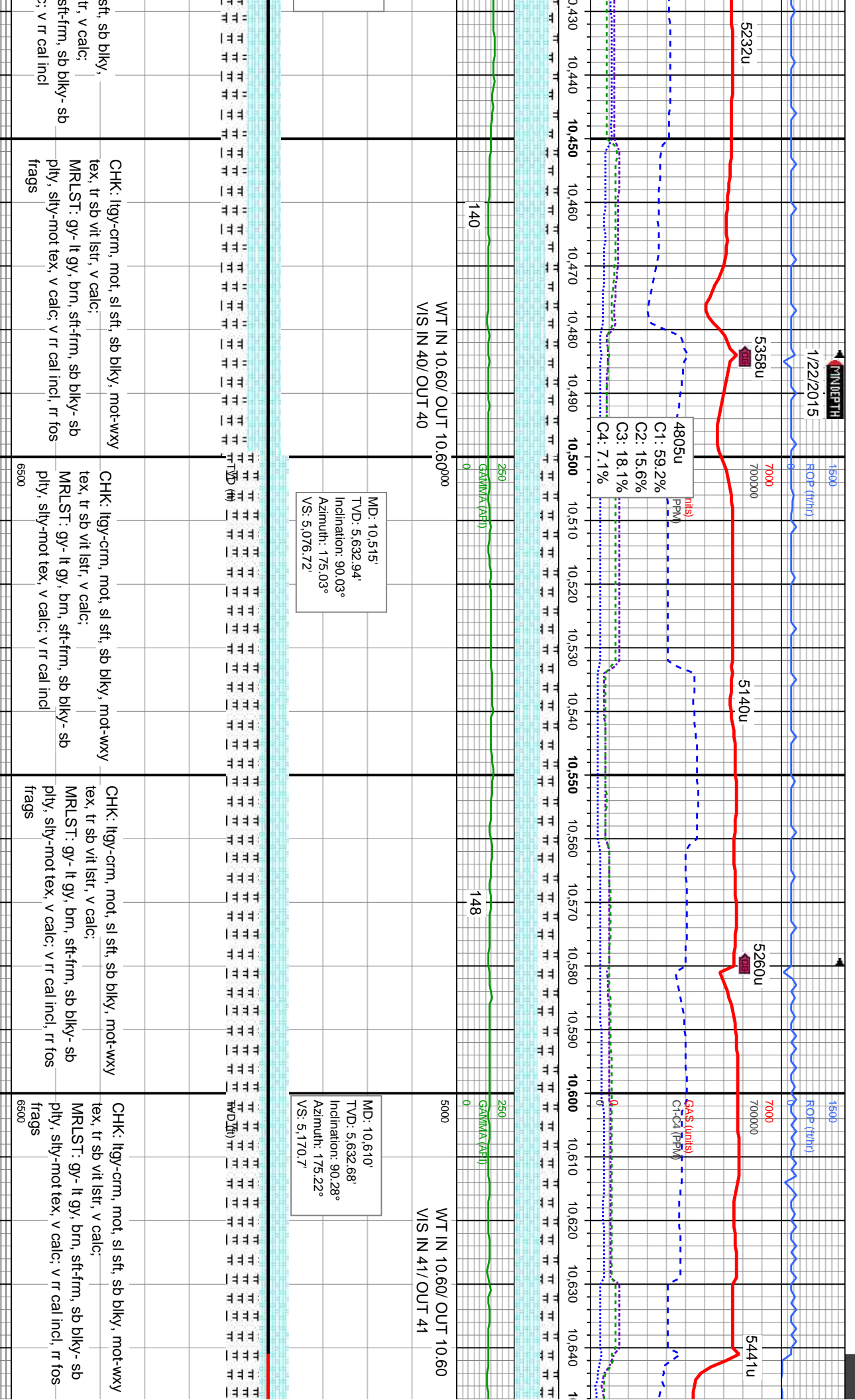
CHK: 1lgy-crm, mot, sl sft, sb bily,
mot-wxy tex, tr sb vit lstr, v calc;
MRLST: gy- lt gy, brn, sft-firm, sb bily-
sb pily, silty-mot tex, v calc; tr cal incl, tr
fos frags, v rr bent

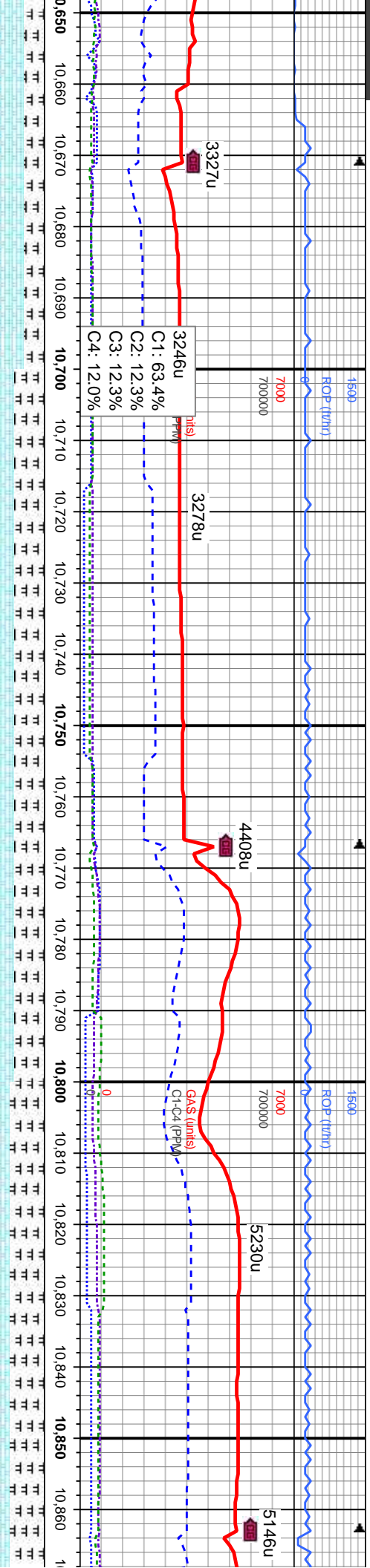
CHK: ɪŋɡy-ɕrm, mot, si sft, sb blky, mot-wxy
tex, tr sb vit lstr, v calc;
MRLST: ɡy-ɪt ɡy, bɹn, sft-frn, sb blky- sb
ply, silty-mot tex, v calc; tr cal incl, rr bent

CHIK: lgy-crm, mot, sl sft, sb blkly, mot-wxy
tex, tr sb vit lstr, v calc;
MR LST: gy- lt gy, bm, sft-fm, sb blkly- sb
plyt, slty-mot tex, v calc; tr cal incl, tr bent

CHK:1
tex, tr:
MRLS:
pity, si:
6500







MD: 10,705'
TVD: 5,632.71'
Inclination: 89.69°
Azimuth: 176.68°
VS: 5,264.88'

MD: 10,799'
TVD: 5,631.88'
Inclination: 91.33°
Azimuth: 178.04°
VS: 5,358.33'

MD: 10,
TVD: 5,
Inclinati
Azimuth
VS: 5.4,

145	250 GA(MM/A (AF)) 0	5000	250 GA(MM/A (AF)) 0	142	5000 WT IN 10.50+ / OUT 10.50+ VIS IN 40/ OUT 40	250 GA(MM/A (AF)) 142
CHK: ltgy-crm, mot, sl sft, sb blk, mot-wxy tex, tr sb vit lstr, v calc;	MRLST: gy- lt gy, brn, sft-frm, sb blk, sb ply, slty-mot tex, v calc; v rr cal incl, rr fos frags	CHK: ltgy-crm, mot, sl sft, sb blk, mot-wxy tex, tr sb vit lstr, v calc	MRLST: gy- lt gy, brn, sft-frm, sb blk, sb ply, slty-mot tex, v calc; v rr cal incl, rr fos frags	CHK: ltgy-crm, mot, sl sft, sb blk, mot-wxy tex, tr sb vit lstr, v calc	MRLST: gy- lt gy, brn, sft-frm, sb blk, sb ply, slty-mot tex, v calc; v rr cal incl, rr fos frags	CHK: ltgy-crm, mot, sl sft, sb blk, mot-wxy tex, tr sb vit lstr, v calc
145	250 GA(MM/A (AF)) 0	5000	250 GA(MM/A (AF)) 0	142	5000 WT IN 10.50+ / OUT 10.50+ VIS IN 40/ OUT 40	250 GA(MM/A (AF)) 142



NOBLE ENERGY INC.
MOSES STATE LD11-78HN
TD @ 10870' MD
1/22/2015 @ 04:36 AM
THANK YOU
COLUMBINE LOGGING

1500
ROP (ft/hr)
0
7000
7000000

10,870 10,880 10,890 10,900 10,910 10,920 10,930

250
GAMMA (API)
0

5000

REJECTED

870'
330.23'
Dn: 91.33°
 : 178.04°
8.99'

TVD (ft)

, brn, sft-frm, sb blkly- sb
v calc; v rr cal incl, rr fos
not, sl sft, sb blkly, mot-wxy
v calc

6500